Pattern Blocks

By: Racheal Haines

**What does the manipulative do/show?**

*Pattern Blocks* can be used for all types of math lessons such as adding and subtracting, multiplication and division, fractions, geometry, plane tiling, and symmetry.

The shapes available for *Pattern Blocks* are a triangle, a square, a parallelogram, a rhombus, a trapezoid, and a hexagon. Students are able to be rotated these shapes in any direction. The shapes can be changed to an assortment of colors. They can be superimposed on each other or themselves. They can be made bigger or smaller. Lastly, they can be cloned. NLVM provides an array of activities where a student can experiment with most of the mathematical concepts listed above.

**How does it connect to NCTM Standards?**

**NCTM Standards: K-2 grades**

**Geometry Standards:**

**2.9.K.A:** Identify and describe common 2-dimensional shapes

**2.9.K.B:** Identify and draw lines of **symmetry**, with adult assistance

**2.9.1.A:** Name, describe and draw/build 2-dimensional shapes

**2.9.1.B:** Identify and draw lines of symmetry

K-2 grades Expectations: Using *Pattern Blocks* in Geometry, a teacher could ask his or her students to identify, draw/build, compare, and, sort two-dimensional shapes. The shapes could consist of a triangle, a square, a parallelogram, a rhombus, a trapezoid, and a hexagon. *Pattern Blocks* can also help students recognize the symmetry between shapes. Depending on the grade, students could identify and draw the line of symmetry.

**Algebra Standards:**

**2.8.PK.C:** Recognize and replicate number and geometric patterns

**2.8.1.C:** Recognize, describe, extend, replicate and transfer number and geometric patterns

**2.1.2.C:** Use drawings or models to show the concept of a fraction as part of a whole; use whole numbers and simple fractions (halves, thirds, and fourths) to represent quantities

**2.8.2.C:** Recognize, describe, extend, create, and replicate a variety of patterns including attribute, activity, number, and geometric patterns.

**K-2 grades Expectations:** Using *Pattern Blocks* for Algebra, a teacher could ask his or her students to recognize, replicate numbers and geometric patterns. They can also help students describe, extend, and create certain geometric patterns. *Pattern Blocks* are very popular tool for representing fractions. They can be used as models or as a tool to help students understanding.

**What are your thoughts on the resource?**

In general, the website is very simple and easy to negate which is wonderful for young students. There are an array of activities provide for *Pattern Block* which is great because of all the areas of mathematics they are used in. This game allows for simple use as just allowing the students to explore two-dimensional shapes or it can be made complex by the activities provide. For example, one activity is to figuring out what shape would be considered half a unit of another shape.

One of the big features or lack of features in the *Pattern Blocks* section is that during the activities there is no feedback provide to the user. The activities ask the player to do certain task with the shapes once he or she completes the request there is no feedback whether it is wrong or the right. For this reason, I would not use this resource as an independent activity for my students. I might allow them to just experiment with the shapes independently but I would not allow them to practice the activities provided. I would use the activities as a whole class introduction to a certain concepts where *Pattern Blocks* can be used.

POINT OUT THE VIEW

By: Racheal Haines

Where can it be found?

<http://pbskids.org/cyberchase/games/pointofview/>

What is it?

*POINT OUT THE VIEW* is a game that represents the concept of Spatial Visualization. The concept shows connections between the three-dimensional world and the two-dimensional world. The game has four characters standing around a two-dimensional grid made up of forty-blocks with a three-dimensional “building” made of cubes on top of it. Each character has a different view of the “building”; the views they could have include front, back, right or left. The player must represent each character’s view by selecting certain boxes on a chart. The chart represents the two-dimensional grid it contains forty boxes. There are ten levels in the game that go from easy to hard.

There are two features that help the player figure out each character’s views; one is the two-dimensional grid the “building” stands on. It allows the player to count how many spaces the figure is from the end of the grid. The player can use that information to choose the correct boxes in the chart. The second feature is a hint button; it shows a location of a certain cube within a character’s view on the chart. A cube in the figure and its corresponding box in the chart will flash at the same time. If the player selects the correct views for each character then he or she can move on the next “building.” The “building” will look different and all the character will have different views of it.

How could it connect to teaching that supports NCTM standards?

NCTM Standard: 3-5 grades

Geometry Standards: Identify and draw a two-dimensional representation of a three-dimensional object.

What are your thoughts on this resource?

I loved POINT OUT THE VIEW!!! PBS always puts out quality children’s products whether it is a show or website. Children’s learning is always a first priority for them and I really think they did a great job on this game. I was having trouble understanding the concept of Spatial Visualization; I could grasp how to transform the view of a three-dimensional figure into a two-dimensional drawing. After I played POINT OUT THE VIEW a couple times I finally understood the concept. The game made it fun so it took the press of getting the answer correct off. I could just absorb how the process of transforming a three-dimensional figure into a two-dimensional drawing was done.

I would definitely use POINT OUT THE VIEW in my future classroom. It is easy to use and proves great feedback so student would be able to work on it independently. I would use the game as a center to practice mastery of math concepts or as a review game after the Spatial Visualization lesson. POINT OUT THE VIEW helps with students’ future learning in two ways: First one is helps represent the concept of perspective; people have different views of an object depending on their location. The second way is it helps sharpen the students’ problem solving skills. The game gives the player certain tools but does not explain how to use them, for example the grid that the three-dimensional figure lays on is a tool but is not explain in the directions. This make the student use their problem solving skills to figure how the game works. In life, there isn’t always directions for everything a person encounters so these skills are important.